

* Ship oct 02 *

Work Order ID 134459

134459

Page 1

Wednesday, July 08, 2015 3:15:29 PM

Item ID: D350-591-121

Accept

N9000040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: Heli-Access-Step™ LH - High Gear, Short Step, Float Compatible

Start Date: 6/29/15 Start Qty: 2.00

Required Date: 7/07/15 Req'd Qty: 2.00

Cust Item ID:

Customer:

Reference:

Approvals: Process Plan: MLJ Date: JUL 10 2015 Tooling: _____ Date: _____

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start *NR1*

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
D2351-041	Rev E

100

Document Control

0.00

100

DOCUMENT CONTROL

DC

Memo

0.00

Doc.Control -USB or Paperwork

Photocopy bluefile and type labels as per PPP D350-591-121 CHG005

DAS

SEP 30 2015

110

0.00

110

Large Fab

Large Fab

Memo

0.01

Large Fab

1-Cut D2244-116 extrusion to 55.32" long as per Dwg D2351 using cutting table setup DT8185-G

2-Drill extrusion per Dwg D2351 using Jig DT8230 for rivets.

3-Deburr

DAS

24

9-89

SEP 21 2015

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition			Completed By		
							Lead hand / Supervisor Approval Verification		
							QC / QA Coordinator Approval		
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

Work Order ID 134459

134459

Page 2

Wednesday, July 08, 2015 3:15:29 PM

Item ID: D350-591-121

Accept

N900040100

Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Heli-Access-Step™ LH - High Gear, Short Step, Float Compatible

Start Date: 6/29/15 Start Qty: 2.00

~~*2*~~

~~4~~ 3

Cust Item ID:

Required Date: 7/07/15 Req'd Qty: 2.00

~~*2*~~

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start ***NR1***

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120	BENDING MACHINE - SKIDTUBES	0.01							
120									
CNC Bend 1	Memo	0.00							
CNC Delta 100 Bender	Bend as per Dwg D2351-041 using CNC Bender 1 and Folio 27 Use Bend Program D2351-041.								
122	QC5- Inspect part completeness to step on W/O	0.00							
122									
QC	Memo	0.00							
Quality Control									
126		0.00							
126									
Large Fab	Memo	0.00							
Large Fab	***BUFF AND REMOVE BENDING MARKS WITHIN .005", if deeper see engineer***								

③ ID 15-9-22 PTO

3 SEP 22 2015 DAS 24 9-89

3 SEP 22 2015 DAS 24 9-89

DQA:

Date: 15/11/23



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed:

Date: 15/10/16

Work Order update only ☐

Work Order: <u>134459</u> Part No. <u>D350-591-121</u> NCR No. <u>15-5406</u>	DISPOSITION Rework ☐ Scrap ☒ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width:100%;"> <tr> <td>Skid-tube ☐</td> <td>Cross tube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☒</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>				Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☒	Composite ☐	Supplier ☐	
Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐																		
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐																		
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐																		
Large Fab ☒	Composite ☐	Supplier ☐																			
Date: <u>15-9-22</u>	Step #: <u>120</u>	QTY Effective: <u>1</u>	MRB (QS1042) Approval DAS 9 9-89 <u>15-09-21</u>																		
Description Work Order Deviation 1 step underbent by 0.060" step does not fit well in Webbing Fixture R. Material.		Disposition Scrap <u>NO</u> Replace.		Completed By <u>15-9-22</u> Lead hand / Supervisor Approval Verification DAS 9 9-89 <u>15-09-22</u> QC / QA Coordinator Approval DAS 9 9-89 <u>15-09-22</u>																	
Root Cause <table style="width:100%;"> <tr> <td style="width:50%;"> Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☒ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ </td> <td style="width:50%;"> No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐ </td> </tr> </table>		Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☒ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	FAULT CATEGORY <table style="width:100%;"> <tr> <td style="width:33%;"> Pressure/Forced ☐ Bending ☒ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ </td> <td style="width:33%;"> Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ </td> <td style="width:33%;"> Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ </td> </tr> </table>			Pressure/Forced ☐ Bending ☒ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐												
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OTHER: ☐																					

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐							
Date :		Step #:		QTY Effective :			MRB (QS1042) Approval				
Description Work Order Deviation				Disposition				Completed By			
								Lead hand / Supervisor Approval Verification			
								QC / QA Coordinator Approval			
Root Cause		FAULT CATEGORY									
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐						
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐						
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐						
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐						
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐						
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Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____									
Misidentified ☐	Past Due ☐										

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[illegible]

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width: 100%; border: none;"> <tr> <td style="width: 15%;">Skid-tube ☐</td> <td style="width: 15%;">Cross tube ☐</td> <td style="width: 15%;">Water Jet ☐</td> <td style="width: 15%;">Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>				Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
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Root Cause		FAULT CATEGORY																			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐																
OTHER : _____																					

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
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Description Work Order Deviation			Disposition		
			Completed By		
			Lead hand / Supervisor Approval Verification		
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Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : ☐					

Work Order ID 134459

Wednesday, July 08, 2015 3:15:30 PM

134459

Page 6

Item ID: D350-591-121

Accept

N900040100

Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Heli-Access-Step™ LH - High Gear, Short Step, Float Compatible

Start Date: 6/29/15 Start Qty: 2.00

~~*2*~~

Required Date: 7/07/15 Req'd Qty: 2.00

~~*2*~~

Cust Item ID:

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start ***NR1***

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
240	Chemical Conversion Coat per QSI005 4.1	0.00							
240									
HandFinish	Memo	0.00							
Hand Finishing									
250	White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum	0.00							
250	<i>in 132729.</i>								
Powdercoat	Memo	0.01							
Powder Coating	START TIME: <u>8:15.</u>								
	OVEN TEMPERATURE: <u>320°</u>								
	FINISH TIME: <u>8:45.</u>								
260	Wing Walk as per dwg QSI005 4.4 Batch <u>M132059</u>	0.00							
260									
HandFinish	Memo	0.01							
Hand Finishing									

3 φ 15-9-24 DAS 34 9.89

3 φ 15-9-2 DAS 34 9.89

x3 φ 15/08/28

*DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

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Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
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Description Work Order Deviation				Disposition				Completed By	
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Root Cause		FAULT CATEGORY							
Environment ☐	☐ No Re-verification	☐ Pressure/Forced	☐ Temperature/Cure	☐ Power Loss/Surge	☐ Positioned Wrong				
Design ☐	☐ Operator	☐ Bending	☐ Set-up	☐ Folio/Program	☐ Outside Dimensions				
Doc/Data ☐	☐ Offset/Setup	☐ Centre Not Concentric	☐ BOM/Route	☐ Grain	☐ Over/Under tolerance				
Equip/Tooling ☐	☐ Supplier	☐ Cracks	☐ Broken/Damage/Defect	☐ Weld	☐ Part Incorrect				
Handling/Pre ☐	☐ Training	☐ Crimp/Kink/Ripple/Wave	☐ Inspection Incomplete/Unqualified	☐ Wrong Stock Pulled	☐ Part Lost/Missing				
Material ☐	☐ Use for Testing	☐ Cuffs	☐ Contamination	☐ Out of Sequence	☐ Part Moved				
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Tribal Knowledge ☐	☐ Rushing	☐ Heat Treat	☐ Cut Too Short	☐ Mislabeled	☐ Finish				
LOA ☐	☐ Product Improvement	☐ Wave/Twist in Tube	☐ Instructions Incomplete/Unclear	☐ Fit/Function	☐ Misread				
Substation ☐	☐ Process Improvement	☐ Marks/Chatter	☐ Drill Holes	☐ Misaligned/off center	☐ Turning Sequence				
Past Expiry Date ☐	☐ Manufacturing Process	OTHER : _____							
Misidentified ☐	☐ Past Due								

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Wednesday, July 08, 2015 3:15:30 PM

Reference:

Stop ***NR2***

Quality Control

Packaging

Quality Control

9-89

SEP 30 2015
SEP 30 2015

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

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Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
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OTHER :					

134459

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Accept

N900040100

Setup Start *NS1*

Stop *NS2*

Item Name: Heli-Access-Step™ LH - High Gear, Short Step, Float Compatible

Start Date: 6/29/15 **Start Qty:** 2.00

2

Required Date: 7/07/15 **Req'd Qty:** 2.00

Cust Item ID:

Customer:

Reference:

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

300

0.00

300

Packaging

0.00

Packaging

Memo

Packaging

Identify and pack for shipping as per PPP D350-591-121
Location: FG039

15-01-30

310

QC21- Final Inspection - Work Order Release

0.00

310

OC

Memo

0.00

Quality Control

15/9/30

MF
15-9-30

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QS1042) Approval	
Description Work Order Deviation			Disposition		
			Completed By		
			Lead hand / Supervisor Approval Verification		
			QC / QA Coordinator Approval		
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER :					

Picklist Print

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Page 1

Work Order ID: 134459

134459

Parent Item: D350-591-121

D350-591-121

Parent Item Name: Heli-Access-Step™ LH - High Gear, Short Step, Float Compatible

Start Date: 6/29/15

Required Date: 7/07/15

Start Qty: 2.00

Required Qty: 2.00

Comments: IPP Rev:E02.10.21Re-format; Incorporated D2351-041 IPPKJ/RF
IPP rev. F 06.02.23 added grinding EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D2244-116		Manufactured	No			110	Each	137.0000	0.5	2			DAS 24 9-89
D2244-116												SEP 2 1 2015	
STEP EXTRUSION													

Location Loc Qty Loc Code

HALL 137

117818 137

WA003 -0.0000368

D2850-1		Manufactured	No			140	Each	7.0000	1	2			DAS 24 9-89
D2850-1												SEP 2 2 2015	
End Bracket													

Location Loc Qty Loc Code

WA003 7

122210 7

D2582		Manufactured	No			190	Each	0.0000	1	2			DAS 24 9-89
D2582												SEP 2 4 2015	
Hi-Skid Step Leg Ass'Y													

MS20600-AD4W3

Purchased No

190 Each 601.0000 16

MS20600-AD4W3

Cherry Rivets

Location Loc Qty Loc Code

GA 223

m129795 223

ST309 294

m132680 294

WA003 84

m130018 84

****B133937 → 1 B136160 → 2**

****SP15-09-23**

48X

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER :							
Misidentified ☐	Past Due ☐								

Picklist Print

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Page 2

Work Order ID: 134459

134459

Parent Item: D350-591-121

D350-591-121

Parent Item Name: Heli-Access-Step™ LH - High Gear, Short Step, Float Compatible

Start Date: 6/29/15

Required Date: 7/07/15

Start Qty: 2.00

Required Qty: 2.00

D2673-34

Manufactured No

210

Each

31.0000

1

2

D2673-34

End Plate

**

SEP 22 2015

DAS

24

9-89

Location

Loc Qty

Loc Code

WA003

31

133494

10

133998

21

AN4-16A

Purchased

No

290

Each

216.0000

2

AN4-16A

Bolt

DAS

02

9-89

**

Location

Loc Qty

Loc Code

FG

5

121541

5

ST325A

211

M132317

211

D2856-400

Manufactured

No

290

f

96.4400

0.6

D2856-400

Abrasion Strip 4" Wide (Per Foot)

DAS

02

9-89

**

Location

Loc Qty

Loc Code

ST418

96.44

128948

96.44

SEP 29 2015

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER :							
Misidentified ☐	Past Due ☐								

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Work Order ID: 134459

134459

Parent Item: D350-591-121

D350-591-121

Parent Item Name: Heli-Access-Step™ LH - High Gear, Short Step, Float Compatible

Start Date: 6/29/15

Required Date: 7/07/15

Start Qty: 2.00

Required Qty: 2.00

NAS1149D0463J

Purchased

No

290

Each

4,433.000

6

NAS1149D0463J

WASHER

DAS
02
9-89

**

Location

Loc Qty

Loc Code

GA

41

M129390

41

ST260a

1000

M132677

1000

ST269

3392

M128591

16

M129682

86

M130799

371

M132035

2762

M132317

157

DAS
27
9-89

DAS
9-89

D2230-1

Manufactured

No

290

Each

143.0000

1

D2230-1

Mounting Lug

DAS
02
9-89

**

Location

Loc Qty

Loc Code

FG

4

84136

4

ST521

105

115306

48

116380

3

130313

4

134015

50

ST546A

34

113437

9

116381

25

DAS
27
9-89

DAS
9-89

SEP 29 2015

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DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

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Work Order ID: 134459

134459

Parent Item: D350-591-121

D350-591-121

Parent Item Name: Heli-Access-Step™ LH - High Gear, Short Step, Float Compatible

Start Date: 6/29/15

Required Date: 7/07/15

Start Qty: 2.00

Required Qty: 2.00

AN3-37A

Purchased

No

290

Each

41.0000

2

6

AN3-37A

Bolt

DAS
02
9-89

Location

Loc Qty

Loc Code

FG	10	
119086	10	
FP001	14	
m130325	14	
ST347	17	
5931	2	
m130466	15	

**

DAS
27
9-89

MS21042L3

Purchased

No

290

Each

1,445.000

2

6

MS21042L3

Nut

DAS
02
9-89

Location

Loc Qty

Loc Code

FP001	393	
M130922	393	
GA	436	
M131317	436	
ST305	616	
116549	12	
126333	49	
M128401	2	
M128754	2	
M132123	17	
M132382	534	

**

DAS
27
9-89

SEP 29 2015

m133134 86

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DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐							
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval			
Description Work Order Deviation				Disposition				Completed By			
								Lead hand / Supervisor Approval Verification			
								QC / QA Coordinator Approval			
Root Cause		FAULT CATEGORY									
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐	Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐	Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐	Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐
Past Expiry Date ☐	Manufacturing Process ☐	OTHER :									
Misidentified ☐	Past Due ☐										

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Work Order ID: 134459

134459

Parent Item: D350-591-121

D350-591-121

Parent Item Name: Heli-Access-Step™ LH - High Gear, Short Step, Float Compatible

Start Date: 6/29/15

Required Date: 7/07/15

Start Qty: 2.00

Required Qty: 2.00

AN4-13A Purchased No 290 Each 549.0000 3 6

AN4-13A

Bolt

DAS
02
9-89

**

DAS
27
9-89



Location	Loc Qty	Loc Code
FG	20	
122808	20	
ST325A	529	
m131957	199	
m132317	30	
m132551	300	

MS21042L4 Purchased No 290 Each 4,028.000 3 6

MS21042L 4

Locknut

DAS
02
9-89

**

DAS
27
9-89



Location	Loc Qty	Loc Code
FP001	2	
m124231	2	
GA	150	
m127813	150	
ST260a	3688	
m130799	56	
m131803	6	
m132262	626	
m132382	3000	
ST305	188	
m128300	16	
m130388	7	
m130922	97	
m131618	12	
m132123	56	

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DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation			Disposition		
			Completed By		
			Lead hand / Supervisor Approval Verification		
			QC / QA Coordinator Approval		
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : _____					

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Work Order ID: 134459

134459

Parent Item: D350-591-121

D350-591-121

Parent Item Name: Heli-Access-Step™ LH - High Gear, Short Step, Float Compatible

Start Date: 6/29/15

Required Date: 7/07/15

Start Qty: 2.00

Required Qty: 2.00

D2230-3

Manufactured No

290

Each

197.0000

1

3

D2230-3

Mounting Lug

DAS
02
9-89

Location

Loc Qty

Loc Code

FG

8

109344

4

89045

4

ST521

89

109344

2

114921

3

116378

1

123324

3

128799

3

130846

37

131696

40

ST525A

100

132403

100

B3426

3

DAS
27
9-89

DAS
27
9-89

D2732-030

Manufactured No

290

Each

113.0000

2

6

D2732-030

Rubber Cushion - 3"

DAS
02
9-89

Location

Loc Qty

Loc Code

FG

27

107346

2

117118

12

124849

9

132003

4

ST410

86

133074

86

76

DAS
27
9-89

DAS
27
9-89

SEP 2 9 2015

2x3" kit

*

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DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																													
Date :		Step #:		QTY Effective :			MRB (QS1042) Approval																																																										
Description Work Order Deviation				Disposition				Completed By																																																									
								Lead hand / Supervisor Approval Verification																																																									
								QC / QA Coordinator Approval																																																									
Root Cause		FAULT CATEGORY																																																															
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐	Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐	Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐	Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐	Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐	Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐	LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐	Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐	Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____			
Misidentified ☐	Past Due ☐																																																																

Picklist Print

Wednesday, July 08, 2015 3:15:29 PM

Page 7

Work Order ID: 134459

134459

Parent Item: D350-591-121

D350-591-121

Parent Item Name: Heli-Access-Step™ LH - High Gear, Short Step, Float Compatible

Start Date: 6/29/15

Required Date: 7/07/15

Start Qty: 2.00

Required Qty: 2.00

NAS1149D0363J

Purchased

No

290

Each

2,109.000

4

NAS1149D0363.I

Washer

DAS
02
9-89

Location

Loc Qty

Loc Code

CA	569
m130799	569
GA	1126
m128429	138
m132677	988
ST269	414
m126319	7
m131618	1
m132317	406

M133031

DAS
27
9-89

DAS
9-89

SEP 29 2015

Wednesday, July 08, 2015 3:15:29 PM

Shop Packet Print

Page 7

DQA: _____ Date: _____



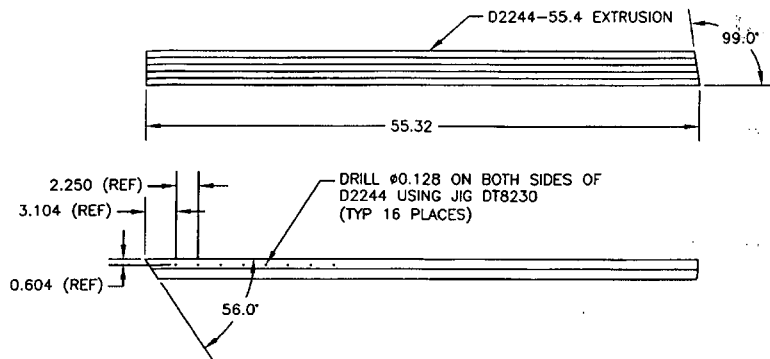
WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

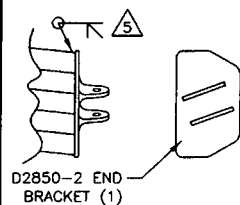
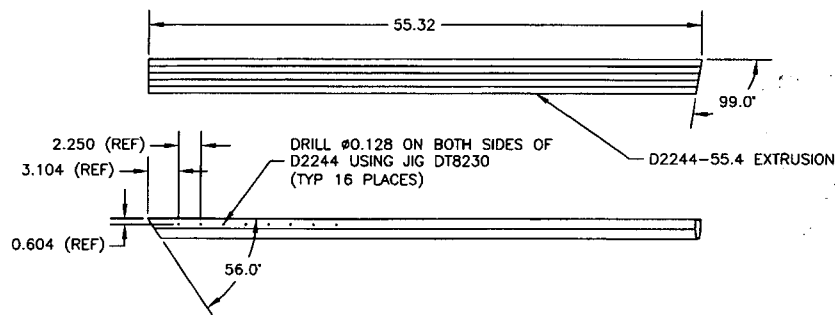
Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐																						
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐																						
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐																						
Large Fab ☐	Composite ☐	Supplier ☐																							
Date :		Step #:		QTY Effective :			MRB (QS1042) Approval																		
Description Work Order Deviation				Disposition			Completed By																		
							Lead hand / Supervisor Approval Verification																		
							QC / QA Coordinator Approval																		
Root Cause		FAULT CATEGORY																							
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐		Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐		Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐		Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐																	
OTHER : _____																									

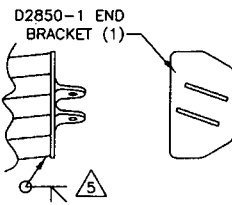
D2351-2 CUTTING/DRILLING DETAIL
RIGHT STEP



D2351-1 CUTTING/DRILLING DETAIL
LEFT STEP



DETAIL A
SCALE: 1:4



DETAIL B
SCALE: 1:4

D2582 STEP LEG ASSEMBLY (1)

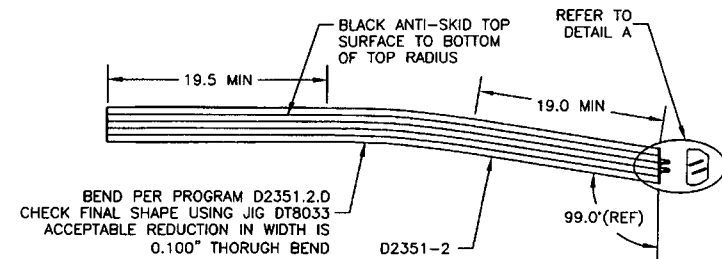


GENERAL NOTES

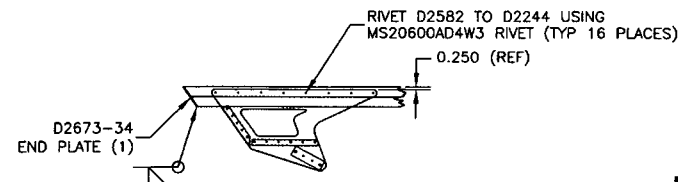
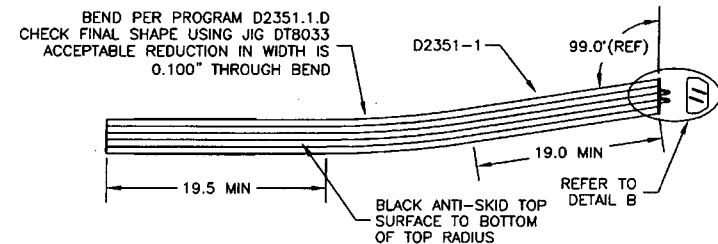
- 1) WELD PER DART QSI 004
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT GLOSS WHITE (4.3.5.1) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT PER DART QSI 005 4.4
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

CHAMFER D2244 EXTRUSION 0.075"x45° BEFORE WELDING D2850-1 OR D2850-2 IN PLACE. DO NOT GRIND FLUSH.

D2351-042 BENDING/ASSEMBLY DETAIL
RIGHT STEP



D2351-041 BENDING/ASSEMBLY DETAIL
LEFT STEP



RELEASED
05.11.28

UNDER REVIEW

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DESIGN KE	DRAWN BY PH	DART	DART AEROSPACE LTD. HAMPSHIRE, ONTARIO, CANADA
CHECKED #	APPROVED #	DRAWING NO. D2351	REV. E
DATE 05.11.14	TITLE HIGH FLOAT STEP ASSEMBLY	SHEET 2 OF 2	SCALE 1:12

* Ship out 02 *

Work Order ID 134459

134459

Page 1

Wednesday, July 08, 2015 3:15:29 PM

Item ID: D350-591-121

Accept

N9000040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: Heli-Access-Step™ LH - High Gear, Short Step, Float Compatible

Start Date: 6/29/15 Start Qty: 2.00

Cust Item ID:

Required Date: 7/07/15 Req'd Qty: 2.00

Customer:

Reference:

Run Start *NR1*

Approvals: Process Plan: MLS Date: JUL 10 2015 Tooling: _____ Date: _____

Stop *NR2*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
D2351-041	Rev E

100	Document Control	0.00							
100	DOCUMENT CONTROL								
DC	Memo	0.00							
Doc.Control -USB or Paperwork	Photocopy bluefile and type labels as per PPP D350-591-121 CHG005								

SEP 2 8 2015

110	Large Fab	0.00							
110									
Large Fab	Memo	0.01							
Large Fab	1-Cut D2244-116 extrusion to 55.32" long as per Dwg D2351 using cutting table setup DT8185-G								
	2-Drill extrusion per Dwg D2351 using Jig DT8230 for rivets.								
	3-Deburr								

SEP 21 2015

DAS
24
9-89

REFERENCE ONLY

DART SERVICE INSTRUCTION

TO AMEND INSTALLATION INSTRUCTIONS D350-591 REV. G OR EARLIER
AND
INSTRUCTIONS OF CONTINUED AIRWORTHINESS ICA-D350-591 REV. 2 OR EARLIER
REF CANADIAN STC: SH92-6
REF FAA STC: SH967NE

For D350-591-121/-122/-123/-124/-133 steps, customers have the option of installing D2732-030 cushions under the D2230-1/-3 clamps to accommodate varying crosstube diameters and to improve fit. It is also acceptable to use longer or shorter AN4 bolts, and/or extra AN960JD416 washers under the nut to ensure 1.5 to 4 threads in safety. See Figure 1 on sheet 2 of this service instruction for reference.

For D350-591-121/-122 steps at CHG 005, D350-591-123/-124 steps at CHG 004, and D350-591-133 steps at CHG 003, the parts list of D350-591 Rev. G and ICA-D350-591 Rev. 2 is amended as follows:

ADD:

Qty -121	Qty -122	Qty -123	Qty -124	Qty -133	Part Number	Description
X					D350-591-121	<i>Heli-Access-Step</i> ™, Short Step – High Skid, LH
	X				D350-591-122	<i>Heli-Access-Step</i> ™, Short Step – High Skid, RH
		X			D350-591-123	<i>Heli-Access-Step</i> ™, Short Step – Low Skid, LH
			X		D350-591-124	<i>Heli-Access-Step</i> ™, Short Step – Low Skid, RH
				X	D350-591-133	<i>Heli-Access-Step</i> ™, Aft Maintenance Step
2	2	2	2	8	D2732-030	CUSHION
2	2	2	2	8	AN4-16A	BOLT

The DSI-9459-011 kit is available for customers with earlier model D350-591-121/-122/-123/-124 steps. Longer AN4 bolts are provided to fasten the clamps. The DSI-9459-013 kit is available for customers with earlier model D350-591-133 steps.

Qty -011	Qty -013	Part Number	Description
X		DSI-9459-011	Rubber Cushion Kit (for -121/-122/-123/-124 steps)
	X	DSI-9459-013	Rubber Cushion Kit (for -133 steps)
2	8	D2732-030	CUSHION
2	8	AN4-16A	BOLT

CANADA
DEPARTMENT OF TRANSPORT
AIRCRAFT CERTIFICATION
BRANCH
DAO # 01-O-01

APPROVED

BY: D. SHEPHERD (DE # 02)

DATE: 09.06.24
CERT. NO.: SH92-6
ISSUE NO.: 11

B	AN4-16A WAS -17A FOR -013/-133 KIT	CP	09.06.24
A	NEW ISSUE	CP	09.04.17
REV.	DESCRIPTION	BY	DATE
DESIGN		DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN			
CHECKED		DRAWING NO.	REV. B
MFG. APPR.	N/A	DSI 9459	SHEET 1 OF 2
APPROVED		TITLE	SCALE
DE APPR.		OPTIONAL CLAMP MODIFICATIONS	NTS
DATE	09.06.24	COPYRIGHT © 2009 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

5. PARTS LIST

Qty -111A	Qty -113	Qty -115	Qty -117A	Qty -119	Qty -133	Part Number	Description
X						D350-591-111A	<i>Heli-Access-Step</i> ™, Long Step – High Skid
	X					D350-591-113	<i>Heli-Access-Step</i> ™, Short Step – High Skid
		X				D350-591-115	<i>Heli-Access-Step</i> ™, Short Step – Low Skid
			X			D350-591-117A	<i>Heli-Access-Step</i> ™, Pre-Flight Step
				X		D350-591-119	<i>Heli-Access-Step</i> ™, Long Step – Low Skid
					X	D350-591-133	<i>Heli-Access-Step</i> ™, Aft Maintenance Step
	1					D2310	STEP ASSEMBLY (HIGH-SHORT)
1						D2311	STEP ASSEMBLY (HIGH-LONG)
		1				D2354	STEP ASSEMBLY (LOW-SHORT)
				1		D2355	STEP ASSEMBLY (LOW-LONG)
					1	D2946-041	STEP ASSEMBLY (MAINTENANCE)
4	2	2	2	2		D2171	CLAMP
4	2	2	2	2		D2182B035	CUSHION
					4	D2230-1	MOUNTING LUG
					4	D2230-3	MOUNTING LUG
8	4	4	4	4		D2274	RADIUS BLOCK
			1			D2362-041	SUPPORT BRACKET
2	1			1		D2362-3	SUPPORT BRACKET
		1				D2362-5	SUPPORT BRACKET
2	1	1	1	1	2	D2856-400-720	ABRASION STRIP
					1	D2945	MOUNTING PLATE
2	2	2		2		AN3-37A	BOLT
					2	AN4-7A	BOLT
					4	AN4-11A	BOLT
					8	AN4-14A	BOLT
		4				AN4-16A	BOLT
8	4			4		AN4-20A	BOLT
1	1	1	4	1		AN4-22A	BOLT
4	4	4		4		AN960JD10	WASHER
10	6	2	4	6	14	AN960JD416	WASHER
		4				AN960JD416L	WASHER
2	2	2		2		MS21042L3	NUT
9	5	5	4	5	14	MS21042L4	NUT

Qty -121	Qty -122	Qty -123	Qty -124	Part Number	Description
X				D350-591-121	<i>Heli-Access-Step</i> ™, Short Step – High Skid, LH
	X			D350-591-122	<i>Heli-Access-Step</i> ™, Short Step – High Skid, RH
		X		D350-591-123	<i>Heli-Access-Step</i> ™, Short Step – Low Skid, LH
			X	D350-591-124	<i>Heli-Access-Step</i> ™, Short Step – Low Skid, RH
1				D2351-041	STEP ASSEMBLY (HIGH-SHORT, LH)
	1			D2351-042	STEP ASSEMBLY (HIGH-SHORT, RH)
		1		D2356-041	STEP ASSEMBLY (LOW-SHORT, LH)
			1	D2356-042	STEP ASSEMBLY (LOW-SHORT, RH)
1	1	1	1	D2230-1	MOUNTING LUG
1	1	1	1	D2230-3	MOUNTING LUG
1	1	1	1	D2856-400-720	ABRASION STRIP
2	2	2	2	AN3-37A	BOLT
3	3	3	3	AN4-13A	BOLT
4	4	4	4	AN960JD10	WASHER
6	6	6	6	AN960JD416	WASHER
2	2	2	2	MS21042L3	NUT
3	3	3	3	MS21042L4	NUT